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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/888,606 | 06/26/2001 | Kazuyuki Shigeta | 35.C15480 | 8670 |

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30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

NGUYEN, JENNIFER T

| ART UNIT | PAPER NUMBER |
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2674

DATE MAILED: 03/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/888,606

Applicant(s)

SHIGETA, KAZUYUKI

Examiner

Jennifer T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6 and 7.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 1A, 1B, 2, 7A, 7A, and 8-10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8, 12-14, 20, 22-24, 29-31, and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (U.S. Patent No. 5,929,925).

Regarding claims 1, 5-7, 20, 22, 23, 33, 35, and 36, referring to Fig. 8, Nakamura teaches an image display apparatus (1) comprising an image signal generating unit (8a, 8b) for generating an image signal and an image display element (2a, 2b) for displaying an image on a screen according to the image signal inputted from the image signal generating unit (8a, 8b), wherein when the screen is divided into a portion (2a) in which the image is displayed and a dark display portion (2b) in which no image is displayed, non-dark display is performed in the dark display portion (2b) (col. 2, lines 36-55, from col. 6, line 19 to col. 7, line 32, and from col. 11, line 59 to col. 12, line 50).

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Nakamura differs from claims 1, 5-7, 20, 22, 23, 33, 35, and 36 in that he does not specifically teach non-dark display is performed in the dark display portion for a very short time period from a start time of display control until a start time of a process for terminating the display control. Nakamura teaches non-dark display (i.e., video signals) is performed in the dark display portion (2b) at the timing of the sampling clock from the clock generating circuit (13b) and it is possible to adjusting a sampling clock from the clock generating circuit (13b) (from col. 11, line 59 to col. 12, line 50). However, it would have been obvious to obtain non-dark display is performed in the dark display portion for a very short time period from a start time of display control until a start time of a process for terminating the display control in order to provide a bright display and avoid the image burn-in.

Regarding claim 2, Nakamura further teaches the image display element includes a plurality of modulation target units that are two-dimensionally arranged (col. 4, lines 31-67).

Regarding claim 3, Nakamura further teaches the image display element performs binary display (from col. 6, line 19 to col. 7, line 32).

Regarding claim 4, Nakamura further teaches the non-dark display (i.e., video signals) is an image reversal (from col. 6, line 19 to col. 7, line 32).

Regarding claim 8, Nakamura further teaches the image is displayed by sequentially irradiating the image display element with light in various colors and switching images in the colors displayed by the image display element in synchronization with the light irradiation, and the non-dark display is performed in a display period assigned to a specific color (col. 2, lines 36-55, from col. 6, line 19 to col. 7, line 32, and from col. 11, line 59 to col. 12, line 50).

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Regarding claims 12, 30, and 39, Nakamura further teaches the image signal transmitted from the image signal generating unit to the image display element is a pulse-width-modulated signal, and the image display element is driven by the pulse-width-modulated signal and displays a gradation image (col. 4, lines 31-58).

Regarding claims 13, 14, 29, and 31, Nakamura further teaches a difference in aspect ratio between the image to be displayed and the screen causes the division of the screen into the portion in which the image is displayed and the portion in which no image is displayed (col. 2, lines 36-55, from col. 6, line 19 to col. 7, line 32, and from col. 11, line 59 to col. 12, line 50).

Regarding claims 24 and 34, Nakamura differs from claims 24 and 34 in that he does not specifically teach a total effective time of the bright display accounts for a proportion exceeding 0% but not exceeding 20% of an entire display period. Nakamura teaches time of the bright display accounts for a proportion is possible to adjusting a sampling clock from the clock generating circuit (from col. 11, line 59 to col. 12, line 50). However, it would have been obvious to obtain the proportion exceeding 0% but not exceeding 20% of an entire display period in order to avoid annoying users.

4. Claims 9 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (U.S. Patent No. 5,929,925) in view of Nakai et al. (U.S. Patent No. 5,990,971).

Regarding claims 9 and 32, Nakamura further teaches the image display element performs binary display (from col. 6, line 19 to col. 7, line 32).

Nakamura differs from claims 9 and 32 in that he does not specifically teach the non-dark display is performed for a signal corresponding to a low gradation. However, referring to Figs. 5a-5c, Nakai teaches the non-dark display is performed for a signal corresponding to a low

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gradation (col. 6, lines 14-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the non-dark display is performed for a signal corresponding to a low gradation as taught by Nakai in the system of Nakamura in order to avoid annoying users.

5. Claims 15-17, 21, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (U.S. Patent No. 5,929,925) in view of Preston (U.S. Patent No. 6,377,369).

Regarding claims 15, 17, and 26, Nakamura differs from claims 15, 17, and 26 in that he does not specifically teach the image display element is a spatial modulation element that uses a liquid crystal. However, Preston teaches the image display element is a spatial modulation element that uses a liquid crystal (from col. 3, line 56 to col. 4, line 11). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the image display element is a spatial modulation element that uses a liquid crystal as taught by Preston in the system of Nakamura in order to provide a display panel, which is easy to view and prevent image burn-in on the display panel.

Regarding claims 16, 21, and 25, Nakamura differs from claims 16, 21, and 25 in that he does not specifically teach the image display element is a spatial modulation element of an MEMS type. However, Preston teaches the image display element is a spatial modulation element of an MEMS type (col. 2, lines 42-59 and col. 4, lines 12-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the image display element is a spatial modulation element of an MEMS type as taught by Preston in the system of Nakamura in order to provide a high quality image display.

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6. Claims 18, 19, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (U.S. Patent No. 5,929,925) in view of Natori (U.S. Patent No. 6,443,597).

Regarding claims 18, 19, 27, and 28, Nakamura differs from claims 18, 19, 27, and 28 in that he does not specifically teach the image display element is an LED. However, Natori the image display element is an LED (col. 3, lines 43-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the image display element is an LED as taught by Natori in the system of Nakamura in order to provide display device with light-emitting efficiency.

7. Claims 10, 11, 37, 38, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (U.S. Patent No. 5,929,925) in view of Millward et al. (U.S. Patent No. 6,064,366).

Regarding claims 10, 11, 37, and 38, Nakamura differs from claims 10, 11, 37, and 38 in that he does not specifically teach the non-dark display is cyclically performed at a frequency of 50 Hz. However, Millward teaches data is cyclically performed at a frequency of 50 Hz (from col. 11, line 60 to col. 12, line 10). Millard differs from claims 10, 11, 37, and 38 in that he does not specifically teach the data is a non-dark display. However, it would have been obvious to obtain the data is the non-dark display in order to prevent the image burn-in for the display panel. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the non-dark display is cyclically performed at a frequency of 50 Hz as taught by Millward in the system of Nakamura in order to allow the flicker rarely recognized and avoid annoying the users.

Regarding claims 40 and 41, Nakamura differs from claims 40 and 41 in that he does not specifically teach full color display is performed by sequentially irradiating the image display element with light in various colors and switching images in the colors displayed by the image display element in synchronization with the light irradiation, and the bright display is performed in a display period assigned to a specific color. However, Millward teaches a full color display is performed by sequentially irradiating the image display element with light in various colors and switching images in the colors displayed by the image display element in synchronization with the light irradiation, and the bright display is performed in a display period assigned to a specific color (from col. 7, line 65 to col. 9, lines 47). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the full color display as taught by Millward in the system of Nakamura in order to a display device with the full color image to viewers.

8. The prior art made of record and not relied upon is considered to pertinent applicant's disclosure.

Sato et al. (U.S. Patent No. 5,534,940) teaches a LCD utilizing various television systems formats.

Sawai et al. (U.S. Patent No. 6,252,590) teaches image processing and display system.

Enomoto et al. (U.S. Patent No. 6,367,080) teaches internet information displaying apparatus.

Shen et al. (U.S. Patent No. 6,486,900) teaches a video display screen saver.

Abe et al. (U.S. Patent No. 5,734,436) teaches television receiving set having text displaying feature.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**.

The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

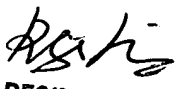
Washington, DC. 20231

Or faxed to: 703-872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

Jennifer T. Nguyen
03/01/2004


**REGINA LIANG
PRIMARY EXAMINER**